

RETURN
DEN

US EPA RECORDS CENTER REGION 5



557269

May 18, 1972

Mr. Bonn Clayton
Phoenix Industries, Inc.
6440 Flying Cloud Drive
Eden Prairie, Minnesota 55343

Dear Mr. Clayton:

I have attached a listing of all rubbish haulers licensed to dump at Pig's Eye which you requested. I have also attached a tabulation showing all refuse that's been disposed of at Pig's Eye and Fish Hatchery since it became a self-sustaining operation in 1967. A landfill report that we prepared in 1970 is also attached. Much of the tabulated material and the comment is still current and may be of interest to you.

I trust that this information will be of some use to you.

Yours very truly,

DONALD E. NYGAARD
ASST. ENGINEER OF MAINTENANCE SERVICES

DEN/em
Attachments (3)

P. S. - I don't feel that we have any really reliable information as to where the haulers shown on the list will go after July 1st. You may wish to contact some of these people.

DEN

REFUSE DELIVERED TO LANDFILL IN 1967

Month	Yards Paid	Charitable Organizations	Parks	Public Works	Garbage	Total Yards
January						
February						
March (from March 13th)	39,902	1,245	210	140	3,780	45,277
April	73,253	1,760	330	345	5,433	81,121
May	88,857	1,830	620	362	6,136	97,805
June	83,307	1,724	860	533	6,035	92,459
July	100,263	1,635	714	1,166	5,367	109,145
August	106,314	1,593	926	780	6,020	115,633
September	91,069	1,867	1,048	835	5,304	100,123
October	83,127	1,592	686	642	5,530	91,577
November	84,740	1,740	435	490	5,547	92,952
December	82,067	1,620	360	370	3,843	88,260
TOTALS	832,899	16,606	6,189	5,663	52,995	914,352

REFUSE DELIVERED TO LANDFILL IN 1968

Month	Yards Paid	Charitable Organizations	Parks	Public Works	Garbage	Total Yards
January	80,157	1,662	233	308	5,688	88,048
February	77,756	1,494	227	232	4,931	84,640
March	96,064	1,542	132	169	5,407	103,314
April	99,398	2,327	432	362	5,093	107,612
May	97,365	2,103	719	1,470	5,652	107,309
June	101,559	1,690	1,203	2,875	5,158	112,485
July	97,271	1,842	445	973	5,287	105,818
August	104,976	2,557	745	1,517	5,494	115,289
September	92,847	2,477	821	1,519	5,027	102,691
October	107,652	1,390	1,028	1,997	5,848	117,915
November	98,813	2,111	690	1,256	4,826	107,696
December	86,174	1,681	603	697	5,302	94,457
TOTALS	1,140,032	22,876	7,278	13,375	63,713	1,247,274

REFUSE DELIVERED TO LANDFILL IN 1969

Month	Yards Paid	Charitable Organizations	Parks	Public Works	Garbage	Total Yards
January	88,759	1,690	270	405	5,256	91,124
February	83,997	1,520	264	320	4,267	90,368
March	97,603	1,620	230	310	4,472	104,235
April	120,468	2,460	460	290	4,947	128,465
May	122,742	2,240	835	475	4,879	131,171
June	116,779	1,720	955	270	4,858	124,582
July	118,365	1,685	1,122	765	5,211	127,148
August	116,675	1,820	1,223	675	4,940	125,333
September	113,585	1,217	983	785	4,945	121,515
October	120,701	1,732	1,740	1,476	5,394	131,042
November	109,201	1,128	884	910	4,240	116,363
December	91,532	816	1,596	770	4,787	99,501
TOTALS	1,300,407	19,648	10,562	7,451	58,196	1,390,847

REFUSE DELIVERED TO LANDFILL IN 1970

Month	Yards Paid	Charitable Organizations	Parks	Public Works	Garbage	Total Yards
January	100,633	956	935	106	4,447	111,525
February	100,785	1,228	1,465	319	4,448	108,245
March	110,412	1,374	1,543	439	4,983	118,751
April	139,492	1,016	1,624	875	5,165	144,747
May	139,274	1,802	1,895	381	4,774	147,126
June	147,324	1,278	2,195	248	5,219	156,254
July	143,128	1,622	1,922	441	5,119	152,232
August	144,283	950	1,329	600	4,888	152,047
September	135,258	432	1,445	490	4,850	142,475
October	149,760	1,736	382	287	4,854	157,019
November	127,996	1,052	1,438	842	4,397	135,725
December	119,604	1,060	1,494	437	5,056	127,651
TOTALS	1,557,949	14,506	17,667	5,465	58,200	1,653,797

23,636 41,676 31,754 33,904
 18,000 13,000 7,988.50 58,276.00

REFUSE DELIVERED TO LANDFILL IN 1971

Month	Yards Paid	Charitable Organizations	Parks	Public Works	Garbage	Total Yards
January	103,528	577	2,169	461	4,650	111,385
February	101,273	924	1,040	96	4,386	107,719
March	132,396	882	1,866	210	5,299	140,653
April	167,484	998	964	72	4,982	174,500
May	149,314	806	768	30	4,590	155,508
June	163,529	1,002	540	180	3,809	169,060
July	155,810	565	298	165	4,815	161,653
August	153,522	694	773	110	1,137	156,236
September	144,309	600	1,001	60	*****	145,970
October	138,853	473	1,314	130	*****	140,770
November	132,499	732	1,881	99	*****	135,211
December	118,871	608	1,021	205	*****	120,705
TOTALS	1,662,388	8,861	13,635	1,818	33,668	1,719,370

1-6 5,150 1,347 1,000 22,716
 6-12 3,575 6,228 767 5,952

 1,816.45 2,571.45 367.75 9,700.60
 1,468.50 2,515.20 307.60 2,380.81

The Minnesota Pollution Control Agency (MPCA) received Task 2 under the Enforcement Cooperative Agreement awarded on September 21, 1991 for the Pig's Eye Dump site. This money was to be used to pursue Responsible Parties either through the negotiation of a Consent Order or the issuance of Request for Response Action (RFRA). This award expires September 30, 1993.

The MPCA is requesting that the budget period for Pig's Eye Task 2 be extended through April 30, 1994. We are also requesting that money be rebudgeted from contractual to personnel costs. The money would be used to pay for personnel costs associated with further site characterization. It is the intent of the MPCA to perform additional site characterization to further assess the extent of the problem at Pig's Eye Dump and to explore possible remediation alternatives. A question that we will try to answer is what can realistically be done on this site for Remedial Actions. The attached work plan indicates the Scope of Work the MPCA intends to pursue.

Pig's Eye Dump is approximately 340 acres in size, is located in the flood plain of the Mississippi River (portions of the site have been flooded in the past) and contains unknown amounts of municipal and industrial wastes. Based on these characteristics, remedial actions such as source removal, capping, or groundwater pump and treat, would be ineffective and cost prohibitive at this site.

At this time little is known about the site. Limited historical records are available. The information so far indicates that companies such as 3M, Ford Motor Company, Whirlpool and other major manufacturers in the area brought hazardous materials to the site. Three monitoring wells have been installed, but only one round of volatile organic compound samples have been collected. These samples indicate that Recommended Allowable Limits (RALs) for private drinking water have been exceeded. The 3 monitoring wells also indicate that metals levels exceed RALs.

Task 2 money is appropriate to spend at this site as further site characterization would aid the MPCA and EPA in Responsible Party identification efforts by identifying chemicals of concern at the site. It is also the intent of the MPCA to attempt to locate specific dumping areas reportedly used by several large companies and to characterize these areas. Finally, the State will be using State Superfund money to hire contractors, but cannot use State funds for personnel costs.

There is approximately \$31,000 remaining in Task 2 funds. Therefore, the MPCA is not seeking any additional funding. The MPCA is requesting that the current project and budget periods be extended to April 30, 1994.

The proposed Budget/Project Periods are as follows:

Budget Period: October 1, 1991 - April 30, 1994
Project Period: October 1, 1991 - April 30, 1994

Pig's Eye TASK 2 Budget

Pig's Eye Dump

Task 2 Budget

	Current	change	Revised
Personnel	\$20,373	\$3,548	\$23,921
Fringe	\$3,667	\$710	\$4,377
Travel	\$130	\$0	\$130
Equipment	\$0	\$0	\$0
Supplies	\$270	\$0	\$0
Contractual	\$5,350	(\$5,350)	\$0
Construction	\$0	\$0	\$0
Other	\$99	\$0	\$0
Total Direct	\$29,889	(\$1,092)	\$28,797
Indirect	\$8,270	\$1,092	\$9,362
Total	\$38,159	\$0	\$38,159

Pig's Eye Limited Remedial Investigation

Designing a limited Remedial Investigation (RI) for Pig's Eye Dump would help focus the project on areas that can be addressed at the site (i.e. buried hot spots, surface water/sediment contamination, human health and ecological impacts, contaminant loading to the river). Secondly, although the site has been scored and proposed for the National Priority List (NPL), very little actual site data exists.

Therefore, the Minnesota Pollution Control Agency (MPCA) is proposing to undertake a limited Remedial Investigation. Moneys for the project would be obtained from State Superfund. It is anticipated that all site work could be completed by the end of April 1994.

The Work Plan Outline is as follows:

Historical Research (Files, Personnel and Air Photos, site walk with past operators)

Geophysical Testing for Buried Drums

Soil Sampling - Soil Borings

Trenching for Hot spots, Buried Drums

Ground Water Sampling, Monitoring well installation

Surface Water Sampling and Sediment Sampling from Creek, River and Wetland

Ecological Assessment

Human Health Assessment

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Introduction

Pig's Eye Dump (Site) is located in the flood plain of the Mississippi River just east of downtown St. Paul, Minnesota. The Site is 320 acres in size and provided service for St. Paul and the surrounding communities. The site began operating in 1957 and was closed in 1972. The Site accepted industrial, commercial and some residential wastes. From 1977 to 1985, the Metropolitan Waste Control Commission (MWCC) deposited sewage sludge ash on approximately 31 acres of the site. The Site flooded in 1957, 1965, 1969 and most recently parts of the Site were underwater in June and July of 1993. While in operation, fires at the site were numerous. In 1988 the Site burned intermittently for two months.

The Site was added to the state Permanent List of Priorities (PLP) in December 1989 with an HRS I score of 43. Because of the change over to HRS II scoring, the Site was rescored in January 1993. The new score is 59. The Site is currently being targeted for inclusion on the National Priority List which is scheduled to be updated in the spring of 1994.

Enforcement Cooperative Agreement money was awarded to the Minnesota Pollution Control Agency (MPCA) beginning October 1, 1991, to conduct a responsible party search. In August 1993 a decision was made to have U.S. Environmental Protection Agency (EPA) or its contractor continue the Potential Responsible Party search beyond September 30, 1993. This report summarizes the

MPCA's efforts in conducting a responsible party search. This material is contained in Attachment 1.

This report also includes an evaluation of the existing data to explore the extent of contamination at the Site and what can be implemented as a remedy at this site. Because data is limited at the Site, the MPCA is proposing to undertake additional site activities to further examine these questions.

Finally, the report contains a summary of current Site activities. This past summer has seen several projects that are infringing on a small portion of the southwest corner of the Site.

Historical Data

Screening Site Inspection

In December of 1988 and January 1989, the MPCA staff conducted field sampling for a Screening Site Inspection (Screening Site Inspection Report for Pig's Eye Landfill, St. Paul, Minnesota). A total of six soil samples, six ground water samples, two surface water samples and one residential well sample were collected.

The soil samples were taken from three soil borings and from the three permanent monitoring wells. Temporary monitoring wells were also installed at the three soil borings. The well samples and soil borings were taken from the ash disposal area east of Battle Creek with the exception of one well west of the creek.

Metals, particularly lead and mercury were found in levels three times greater in on-site soils than in off-site soil samples. Endrin ketone and bis(2-ethylhexyl phthalate) were also found in greatly elevated levels in the soil samples.

Ground water samples collected from permanent monitoring wells found arsenic, chromium, cyanide, lead, mercury, cobalt, and vanadium. The permanent monitoring wells were constructed with polyvinyl chloride, therefore organic analysis is not possible on samples collected from these wells.

Organic analysis was run at the temporary monitoring wells. These wells found methylene chloride, naphthalene, 2-Methylnapthalene, 1,2-Dichlorobenzene and Aroclor 1016 in elevated levels. Elevated metals levels were similar to those from the permanent wells.

Surface water samples were collected from Battle Creek near an apparent seep. These results did not document any contaminants.

Expanded Site Inspection

An Expanded Site Inspection (Expanded Site Inspection Report for Pig's Eye Landfill, St. Paul, Minnesota) was conducted in August 1992. Sediment samples were collected from Battle Creek and Pig's Eye Lake. Soil samples from the ash disposal area were also collected.

Three soil samples from the ash disposal area were collected within 8-11 inches of the surface of the ash disposal area. These samples found elevated levels of metals. Levels of most concern were lead and silver.

Seven creek sediment samples were collected including two background samples. Zinc, arsenic, beryllium, cadmium and selenium were elevated in Battle Creek sediments. Organic analysis detected chlorobenzene, phtalates and pyrenes. A pesticide, chlordane, was also found in creek sediment samples.

Two lake sediment samples were collected, from Pig's Eye Lake. Metals detected included zinc, cadmium, lead and mercury. Organics detected included phtalates and pyrenes. Aroclor 1254 was also present in elevated levels.

MWCC Samples

In December 1977 MWCC was permitted to dispose of sewage sludge ash on 31 acres of the landfill east of Battle Creek. It is estimated that 435,000 cubic yards of ash were deposited on the Site. Disposal of ash on site ceased in 1985. The

ash was then covered with approximately six inches of topsoil. MWCC maintains five wells which can only be sampled for metals and inorganics. Samples from these wells are collected three times yearly. Samples from 1992 indicated no drinking water quality problems for the analysis that was run.

MWCC, as part of its monitoring of the ash disposal area, also monitors Battle Creek upstream and downstream of the disposal area. Sample results for 1992 indicate the presence of metals in low concentrations both upstream and downstream.

Analysis

The Site consists of an unlined dump of approximately 320 acres that is located in a flood plain. The Site is adjacent to the Mississippi River and is bordered to the south by Pig's Eye Lake. Portions of the Site were flooded in July 1993. Ground water flow is toward the Mississippi River and Pig's Eye Lake. Depth to surficial ground water ranges from 5 to 15 feet and is directly influenced by the water levels in the Mississippi River.

Due to access restriction, all of the sampling has been limited primarily to the south and east portions of the Site. Soil borings from these areas have shown metals contamination. Sediment samples also have metals contamination. Organic contamination has been identified in the ground water samples.

It is unclear at this time whether the site warrants cleanup. Presumptive remedies would indicate that a cap may be called for. However, the debris already appears to be sitting in ground water some of the time, so a cap which prevents infiltration, would be of little value reducing leaching. Secondly, periodic flooding may damage the cap material.

A pump and treat system is often used to protect a river from a contaminant plume in the ground water. The loading to the river is not known at this time and a ground water plume has not yet been identified. Also, a pump and treat system would be pumping a lot of river water and would appear to be very expensive.

Digging up the 320 acres would be expensive. This Site has a lot of construction debris that would have to be sorted and cleaned up prior to final disposal.

Because so little is known about this Site, and because the remedy options appear to be very limited, the MPCA is proposing to do a limited remedial investigation using state Superfund to try and answer the questions of how contaminated the Site is and what remedy would be feasible and practical for the Site.

The scope of the limited investigation is as follows:

A primary concern at the Site is that several large corporations dumped their wastes primarily in one location. Analysis in these areas may show that it is cost effective to remove this material. Therefore, the MPCA intends to locate, through historical research and Site walks with past witnesses the locations of these specific disposal areas. It may be possible to remove or remediate these hot spots.

Soil borings, geophysical testing for drums, and/or trenching will be performed to find out what is buried at these specific sites.

A second area of concern is that the St. Paul Police Department was reported to have disposed of ammunition and detonated bombs out at the Site. The MPCA will attempt to locate this area using the same methods as above.

Ground water, surface water and sediment sampling from the creek, lake and Mississippi River will be performed to obtain additional ground water information. This data will aid in a preliminary assessment of impacts to Pigs Eye Lake and the Mississippi River.

Finally, the MPCA intends to look at Human Health and Ecological risks.

At this time, plans call for this work to be completed by the spring of 1994. A report indicating the data collected and an analysis of the Site will be provided at that time.

At this time, it looks as if removal of hot spots may be a viable option at the Site. Secondly, removal of surface debris may warrant additional capping materials. This is a preliminary assessment, which is based on very little information. The scope of the project may change once the limited remedial investigation is completed.

Current Site Activity

Metropolitan Waste Control Commission

The MWCC has a wastewater siphon that crosses the Site. This siphon is old and in areas adjacent to the site. The pipe has been prone to leaking. MWCC televised this pipe in 1992. In early 1993 MWCC approached the MPCA about digging up the line in a selected spot to verify actual pipe conditions.

The MWCC submitted work plans for digging up and handling the contaminated soils which was approved by the MPCA. The work plan called for stock piling the excavated soils on site and backfilling with clean materials. The soils were to be set on plastic and covered with plastic. Water from dewatering would be routed to the MWCC Pig's Eye treatment plant. This work was to take place in the southwest part of the Site near the city of St. Paul (City) wood treating facility.

Soil borings collected prior to excavation indicated one sample which contained elevated levels of lead and barium. Ground water sample of the dewatering water did not show any elevated levels of metals. The volatile organic compound (VOC) analysis of the soils indicated the presence of organics in low levels. The ground water analysis indicated low levels of several chemicals.

The work took place in the spring of 1993 and is now complete. However, the MWCC may need to come back on site to dig up and replace parts of the siphon in the future.

Chicago and North Western Transportation Company

The Chicago and North Western Transportation Company (Company) approached the MPCA in September 1992 about relocating a railroad track onto a portion of the landfill. The area the company proposed for the track relocation was barely within the Site boundary, at the southwest corner of the Site, adjacent to the St. Paul wood chipping facility.

Plans called for the placement of the track on new material on top of the existing Site. Minimal soil excavation would be required. All excavated soils were to remain on site.

Prior to doing any site work, the Company collected soil borings from the proposed area. Metals, particularly lead, zinc and cadmium were found in elevated levels in the soils. VOC's and polycyclic aromatic hydrocarbons were not found.

Actual site work began in August 1993 and is ongoing. Approximately 75 yards of soils were excavated stockpiled on site and tested for toxicity characteristic leachate procedure. Results are pending. Air monitors utilized during site work did not detect any harmful gases.

City of St. Paul

The City currently operates a wood chipping facility within the boundaries of the Site. This facility has been permitted by the MPCA.

The City recently installed a new water line to provide additional fire protection in the area. Excavated soils have been stock piled on site and characterization sample results are pending.

The City is also creating a roadway around the siphon work and track relocation. This road possibly infringes on the southwest corner of the site. No excavation of materials has been necessary.

Revival Field

The City has allowed artist Mel Chin to grow crops on a 60 X 60 test plot on the 31 acres of the Site where MWCC deposited sludge ash. Which crops are being used and the scientific end of the project were designed by Dr. Rufus Chaney. The arrangement of the plants in an arctic manner has been designed by Mel Chin. The crops are an experiment to determine how well the plants take up metals from the ash disposal area. The study is also being conducted to determine whether or not plants that take up metals from the soil can be used to remediate soil contamination.

The project began in 1991 and the plants have been harvested in 1991 and 1992. There are currently plants to harvest in 1993. The results of the harvest information have not been furnished to the MPCA.